`Technical Workshops Series – 2012

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| 5 Days workshop on Animal Tissue Culture  - Organized by Venture Center - |

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| **Learn** | Principles and applications of tissue culture, Characterization of cell lines, Tissue culture media, Cryopreservation and cell banking  **Cell culture techniques: Demonstrations and Hands-on lab experiments -** Cell counting and viability determination, Subculture of cell lines, Development of growth curves, Replicate culture set up, Coverslip cultures.  Quick update on latest techniques / developments.  Large scale production of cultured cells;  Specialized applications- Monoclonal antibodies, Stem cell cultures; Primary cultures and its applications, Organ and organotypic cultures;  Workshop is intended to be basic. |
| **Organized by** | Venture Center – a Technology Business Incubator |
| **For whom** | * Biotechnology, Pharmaceuticals industry professionals * Students and staff of various disciplines of life sciences, Medicine   Maximum 20 seats; First-come-first-serve. |
| **When** | September 11-15, 2012 |
| **Where** | Training Room and Lab Block,  Venture Center, 100 NCL Innovation Park,  Dr. Homi Bhabha Road, Pune-411008 |
| **Contact** | Ms. Lipika Biswas  Venture Center, 100, NCL Innovation Park,  Dr. Homi Bhabha Road, Pune – 411008;  Phone: +91‐20‐20250934  Email: [eventsdesk@venturecenter.co.in](mailto:eventsdesk@venturecenter.co.in) |
| **Cost** | * Students with valid ID card: Rs 5,000 * Micro and small enterprises/ individuals: Rs 7,000 * Medium and large companies/ others: Rs 10,000 |

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| Introduction |
| Animal tissue culture plays a substantial role in the field of Biotechnology. It is one of the major tool in basic research as well as in modern medicine in terms of development and production of new vaccines and therapeutic and diagnostic products. Some of the important areas in which cell culture has currently a major role are cancer research, toxicity testing, virology, immunology, cytogenetics, stem cell biology, drug screening and development, cell based manufacturing, genetic engineering and gene therapy and developmental biology.  However, cell culture requires a certain amount of skill. Therefore there is a need for researchers and those who are involved in life sciences to have a solid understanding of cell culture technology.  The workshop is designed to provide the same through theory sessions and lab exercises.  Topics included in the workshop are Principles and applications of cell culture, Tissue culture lab set up, lab safety and aseptic techniques, Basics of media and supplements for cell culture, Characterization and subculturing of cell lines, Cell counting and viability determination, Development of growth curves, Replicate culture set up, Coverslip cultures, Large scale production of cultured cells, Applications of cell culture technique and cell behavior, Specialized applications- monoclonal antibodies, Stem cell cultures, Primary cultures and its applications, Organ and organotypic cultures, Cryopreservation and cell banking. |

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| Course Outline |
| * The workshop will include theory as well as hands-on lab exercises and demonstrations at Venture Center. * Talks by eminent faculty from various research institutes and industry. * Tour of National Center for Cell Science to see various cell culture facilities and cell repository. |

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| Course includes |
| * Hand out and workshop material * Access to restricted website with online compilation of resources of archival value * Certificate of Participation issued by Venture Center * Tea and lunch at Venture Center cafeteria |

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| **Tentative schedule** | | | | | | | | | |
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|  | L = Lecture, D = Demo, P = Practical | Batch 1 | Batch 2 | | Batch 3 | Batch 1+2+3 |  | |  |
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| 11-Sep-12 | Training room | Inoculation room & LML | BHSL-1 | | BHSL-2 | Lab 6 | Lab 2&3 | | Meeting room |
| 8:30 to 9:00 | Introduction |  |  | |  |  |  | |  |
| 9:00 to 9:15 | Assessment |  |  | |  |  |  | |  |
| 9:15 to 10:15 | L1:Overview of Animal tissue culture  Lead: Dr Sudha Gangal |  |  | |  |  |  | |  |
| 10:15 to 11:00 | L 2:Tissue culture media  Lead: Dr Alpana Moghe |  |  | |  |  |  | |  |
| 11:00 to 11:30 | Tea break |  |  | |  |  |  | |  |
| 11:30 to 12:00 |  |  | Batch 1  D1:Cell culture lab  Lead: Ketaki | | | Batch 2  P1:Pipetting  Lead: Shama |  | | Batch 3  video |
| 12:00 to 12:30 |  |  | Batch 2  D1:Cell culture lab  Lead: Ketaki | | | Batch 3  P1:Pipetting  Lead: Shama |  | | Batch 1  video |
| 12:30 to 13:00 |  |  | Batch 3  D1:Cell culture lab  Lead: Ketaki | | | Batch 1  P1:Pipetting  Lead: Shama |  | | Batch 2  video |
| 13:00 to 14:00 | Lunch break |  |  |  | |  |  | |  |
| 14:00 to 14:30 |  |  | Batch 1  P2:Microscopic examination of cells Lead: Jayashree | Batch 2  D2:Sterilization-autoclaving  Lead: Ketaki | | Batch 3  D3:Sterilization-filtration  Lead: Shama |  | |  |
| 14:30 to 15:00 |  | Batch 1  P5: Subculture monolayer  P6:Coverslip culture  Lead: Jayashree | Batch 2  P2:Microscopic examination of cells  Lead: Ketaki |  | |  |  | | Batch 3  VC Tour |
| 15:00 to 15:30 | Batch 2,3  Tea break |  |  | |  |  | |  |
| 15:30 to 16:00 |  |  |  | | Batch 3  D4:Replicate culture & viable cell count  Lead: Shama | Batch 2  P4:subculture cells in suspensionsuspension  Lead: Ketaki | |  |
| 16:00 to 16:30 |  |  |  | |  |
| 16:30 to 17:00 |  |  |  | | Batch 3  P7:Growth curve-Viable cell count  Lead: Shama |  |
| 17:00 to 17:30 | Batch 1  Tea break |  |  |  | |  |
| 12-Sep-12 |  |  |  |  | |  |  | |  |
| 9:00 to 10:00 | L3:Characterization of cell lines - I  Lead: Dr Avinash Bhisey |  |  |  | |  |  | |  |
| 10:00 to 10:30 | Tea break |  |  |  | |  |  | |  |
| 10:30 to 11:00 |  |  | Batch 3  P2:Microscopic examination  Lead: Ketaki | Batch 2  D3:Sterilization by filtration  Lead: Jayashree | | Batch 1  D4:Replicate culture & viable cell count  Lead: Shama |  | |  |
| 11:00 to 11:30 |  | Batch 2  P5: Subculture monolayer  P6:Coverslip culture  Lead: Jayashree |  |  | | Batch 3  P4:subculture cells in suspension  Lead: Ketaki | |  |
| 11:30 to 12:00 |  |  |  | | Batch 1  P7:Growth curve-Viable cell count  Lead: Shama |  |
| 12:00 to 12:30 |  |  |  | |  |
| 12:30 to 13:00 |  |  |  | |  | Batch 1  VC Tour |
| 13:00 to 13:30 |  |  |  | |  |  | |  |
| 13:00 to 14:00 | Lunch break  Batch 1,3 |  |  |  | |  |  | |  |
| 13:30 to 14:30 | Lunch break  Batch 2 |  |  |  | |  | Batch 1  P4:subculture cells in suspension culture  Lead: Shama | |  |
| 14:00 to 14:30 |  | Batch 3  P5: Subculture monolayer  P6:Coverslip culture  Lead: Jayashree |  |  | | Batch 2  D4:Replicate culture & viable cell count Lead: Ketaki |  |
| 14:30 to 15:00 |  |  |  | |  |
| 15:00 to 15:30 |  |  |  | | Batch 2  P7:Growth curve-Viable cell count  Lead: Ketaki |  |
| 15:30 to 16:00 |  |  | Batch 1  D2:Sterilization autoclave  Lead: Shama | |  | |  |
| 16:00 to 16:30 | Batch 1,2  Tea break |  |  | |  |  | |  |
| 16:30 to 17:00 | Batch 3  Tea break |  |  |  | | Batch 1  D3:Sterilization by filtration  Lead: Shama |  | | Batch 2  VC Tour |
| 13-Sep-12 |  |  |  |  | |  |  | |  |
| 9:00 to 10:00 | L4:Characterization of cell lines – II  Lead: Dr Avinash Bhisey |  |  |  | |  |  | |  |
| 10:00 to 11:00 | L5:Specialized applications - Stem cell cultures  Lead: Dr Ramesh Bhonde |  |  |  | |  |  | |  |
| 11:00 to 11:30 | Tea break |  |  |  | |  |  | |  |
| 11:30 to 12:15 | L6:Chick embryo culture  Lead: Dr Savita Datar |  |  |  | |  |  | |  |
| 12:15 to 13:15 | Lunch break |  |  |  | |  |  | |  |
| 13:15 to 14:30 |  |  |  |  | |  | Batch 1,2,3  P9:Chick embryo culture  Lead: Dr Datar | |  |
| 14:30 to 15:00 | Tea break |  |  |  | |  |  | |  |
| 14:45 to 17:30 | Tour of cell repository |  |  |  | |  |  | |  |
| 14-Sep-12 |  |  |  |  | |  |  | |  |
| 9:00 to 10:00 | L7:Organ and Organotypic cultures  Lead: Dr Padma Shastry |  |  |  | |  |  | |  |
| 10:00 to 11:00 | L8:Applications of cell culture technique and cell behavior  Lead: Dr Ulhas Wagh |  |  |  | |  |  | |  |
| 11:00 to 11:30 | Tea break |  |  |  | |  |  | |  |
| 11:30 to 12:30 | L9:Specialized applications - Monoclonal antibodies  Lead: Dr Sudha Gangal |  |  |  | |  |  | |  |
| 13:30 to 14:30 | Lunch break |  |  |  | |  |  | |  |
| 14:30 to 15:30 | L10:Large scale production of cultured cells  Lead: Dr Rajeev Dhere |  |  |  | |  |  | |  |
| 15:30 to 16:00 | Tea break |  |  |  | |  |  | |  |
| 16:00 17:00 |  |  |  |  | | Batch 1,2, 3  P8:Giemsa staining  Lead: Ketaki | | |  |
| 15-Sep-12 |  |  |  |  | |  | |  |  |
| 9:00 to 10:00 | Lecture 11:  Primary cultures and its applications  Lead: Dr Alpana Moghe |  |  |  | |  | |  |  |
| 10:00 to 11:00 | Tea break |  |  |  | |  | |  |  |
| 11:00 to 12:00 |  |  |  |  | | Batch1,2,3  P9:Chick embryo culture  Lead: Dr Datar | | |  |
| 12:00 to 13:00 | Lunch break |  |  |  | |  | |  |  |
| 14:30 to 15:00 | Growth curve construction and analysis |  |  |  | |  | |  |  |
| 15:00 to 15:30 | Feedback and certificate distribution |  |  |  | |  | |  |  |

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| Course Director | |
| C:\Documents and Settings\sujaya\My Documents\My Pictures\dr sudha gangal.jpg | **Dr. Sudha Gangal**  Former Research Director, Wadia children's Hospital, Mumbai  Former Head, Immunology Division, Cancer Research Institute, Tata Memorial Centre, Mumbai |
| Other Faculty | |
| C:\Documents and Settings\sujaya\My Documents\My Pictures\http___rgitbt.bharatividyapeeth.bmp | **Dr. Alpana Moghe**  Associate Professor and HOD, Department of Cell & Molecular Biology  Rajiv Gandhi Institute of IT and Biotechnology, Pune |
| C:\Documents and Settings\sujaya\My Documents\My Pictures\Dr Bhisey.jpg | **Dr. Avinash Bhisey**  Former Director, Cancer Research Institute (CRI) and Tata Memorial Centre, Mumbai |
| C:\Documents and Settings\sujaya\My Documents\My Pictures\2009063060.jpg | **Dr. Rajeev Dhere**  Senior Director-Vaccines, Serum Institute of India |
| **C:\Documents and Settings\sujaya\My Documents\My Pictures\DSC_5059.JPG** | **Dr. Ulhas Wagh**  Director Grade Scientist, Research Cadre, I C M R.  Founder Director, National Centre for Cell Science, Pune  Founder Director, I R S H A, Pune |
| C:\Documents and Settings\sujaya\My Documents\My Pictures\Dr Bhonde.jpg | **Dr. Ramesh Bhonde**  Former Technical Director, Stempeutics Research Pvt. Ltd  Professor & Dean, Manipal Institute of Regenerative Medicine, Bangalore |
| http://www.nccs.res.in/pshastry.png | **Dr. Padma Shastry**  Scientist 'G', National Centre for Cell Science, Pune |
|  | **Dr. Savita Datar**  Associate Professor and Head, Department of Zoology, S. P. College, Pune |

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| About the organizers |
| Entrepreneurship Development Center (Venture Center) – a CSIR initiative – is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology’s National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center’s focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering. For more information, visit <http://www.venturecenter.co.in> |